



Estimating the Cost to Implement a PLTW Gateway To Technology Program

The cost to implement a PLTW program will vary from school district to school district. There are multiple reasons for the variation:

- Different schools have varying availability of equipment, supplies, and other materials required to implement the curriculum. The more items already available, the lower the cost will be to implement a program.
- There are three different PLTW STEM programs, each with different equipment requirements and consequent costs.
- There are cost differences between the various course selections within each high school program, as some courses require more expensive equipment. Similarly, there are different costs associated with each of the middle school Gateway To Technology (GTT) units. Schools may select different courses/units.
- The number of class sections offered for each high school course or GTT unit will affect the overall cost to the school.

Therefore the costs presented here are estimates, and in order for schools to determine their actual costs an inventory of existing materials should be taken using the PLTW purchasing manual for the program being implemented. The manuals are available on the PLTW website at <http://www.pltw.org/program-support/2011-2012-purchasing-manual>.

Estimated Cost to Implement the Middle School Gateway To Technology Program

Minimum implementation is two units, Design & Modeling and Automation & Robotics. Each unit consists of nine weeks of daily 45-minute instructional periods. The scheduling can be modified to fit the needs of the school, for example the class could be offered every other day for 18 weeks or multiple units can be combined to make a semester or year-long class. Many schools implement the two units over a two-year time frame to distribute the costs.

The estimated cost to add the required Design & Modeling and Automation & Robotics units to an existing Technology Education classroom with access to computers meeting PLTW specifications is \$10,230.

The following items are included in this estimate:

- Two-weeks (80 hours) of Core Training for one teacher with full room and board
- Classroom equipment and consumables
- Equipment specific for the two required units
- Consumables specific for the two required units, enough for at least 20 students
- Required software
- Access to the curriculum for the two units, including: teacher notes, lesson plans, key terms with definitions, crosswalks to National Standards, student handouts, instructional PowerPoints, scoring rubrics, and answer keys (provided at no charge to teachers who successfully complete the appropriate Core Training)



- Access to the PLTW Virtual Academy for continuing teacher professional development (provided at no charge to PLTW teachers)
- Access to the teacher discussion forums (provided at no charge to PLTW teachers)
- Access for PLTW students to the Northwest Evaluation Association MAP testing for science and mathematics (currently provided at no charge to PLTW students)

The two tables below breakdown the actual costs to equip a GTT classroom and implement the various units. The classroom equipment and consumables are items that are used in multiple units and can be used in multiple class sections. Equipment is a one-time purchase, whereas consumables will have to be replenished. The need for replenishment will vary depending on the number of students using the items. The estimate for the classroom consumables assumes four or five classes of 20 students meet in the classroom daily.

Table 1. Breakdown of specific costs to set-up a GTT classroom used for multiple class sections each day. The equipment and consumables are used for activities in multiple units and are not specific to a unit.

GTT Classroom Lab Set-Up Costs	
Classroom Equipment	\$4,950
Classroom Consumables	\$435
Annual Software Lease (Inventor)	\$750
Total	\$6,135
Additional costs if:	
Not originally a tech-ed classroom	\$1,740
Need to purchase computers, projector, printer, and scanner	\$18,445

The available units in the GTT program include Design & Modeling, Automation & Robotics, Energy & the Environment, Flight & Space, Science of Technology, and Magic of Electrons. Again Design & Modeling and Automation & Robotics are the minimal required units.

Table 2. Breakdown of specific costs to implement each GTT unit once the classroom is equipped. These are the costs to purchase the equipment and consumables that are specific to each unit of study, and are in addition to the cost to set-up the GTT classroom. The consumable costs are for a single class section of 20 students.

	Design & Modeling (DM)	Automation & Robotics	Energy & the Environment	Flight & Space (FS)	Science of Technology	Magic of Electrons
Teacher Training includes Room & Board	\$3,400	with DM	with DM	\$3,400	with FS	with FS
Equipment, unit specific	\$340	\$65	\$985	\$1,525	\$740	\$1,325
Consumables, unit specific	\$175	\$115	\$180	\$240	\$60	\$490
Total	\$3,915	\$180	\$1,165	\$5,165	\$800	\$1,815